CSc 337

LECTURE 3: PAGE SECTIONS AND MORE CSS

Grouping styles

```css
p, h1, h2 {
color: green;
}
h2 {
background-color: yellow;
}
```

CSS

This paragraph uses the above style.

This h2 uses the above styles.

output

- A style can select multiple elements separated by commas
- The individual elements can also have their own styles

CSS comments: /* ... */

```css
/* This is a comment.
   It can span many lines in the CSS file. */
p {
    color: red;
    background-color: aqua;
}
```

CSS

- CSS (like HTML) is usually not commented as much as code such as Java
- the // single-line comment style is NOT supported in CSS
- the <!-- ... --> HTML comment style is also NOT supported in CSS

W3C CSS Validator

```
<p>
   <a href="http://jigsaw.w3.org/css-validator/check/referer">
     <img src="http://jigsaw.w3.org/css-validator/images/vcss"
       alt="Valid CSS!" /></a>
</p>
```

HTML

output

- jigsaw.w3.org/css-validator/
- checks your CSS to make sure it meets the official CSS specifications
- more picky than the web browser, which may render malformed CSS correctly

text-align

```
blockquote { text-align: justify; }

h2 { text-align: center; }
```
CSS

The Emperor's Quote

[TO LUKE SKYWALKER] The alliance... will die. As will your friends. Good, I can feel your anger. I am unarmed. Take your weapon. Strike me down with all of your hatred and your journey towards the dark side will be complete.

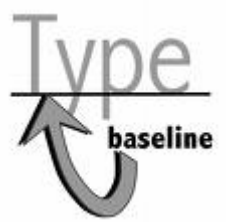
output

- can be left, right, center, or justify (which widens all full lines of the element so that they occupy its entire width)

The vertical-align property

property	description
vertical-align	specifies where an inline element should be aligned vertically, with respect to other content on the same line within its block element's box

- can be `top`, `middle`, `bottom`, `baseline` (default), `sub`, `super`, `text-top`, `text-bottom`, or a length value or `%`
    - `baseline` means aligned with bottom of non-hanging letters



Vertical Align

```
img { vertical-align: bottom }
```

beginning text  end text


```
img { vertical-align: middle }
```

beginning text  end text


```
img { vertical-align: top }
```

beginning text  end text

Common bug: space under image

```
<p style="background-color: red; padding: 0px; margin: 0px">
<img src="images/smiley.png" alt="smile" />
</p>
```

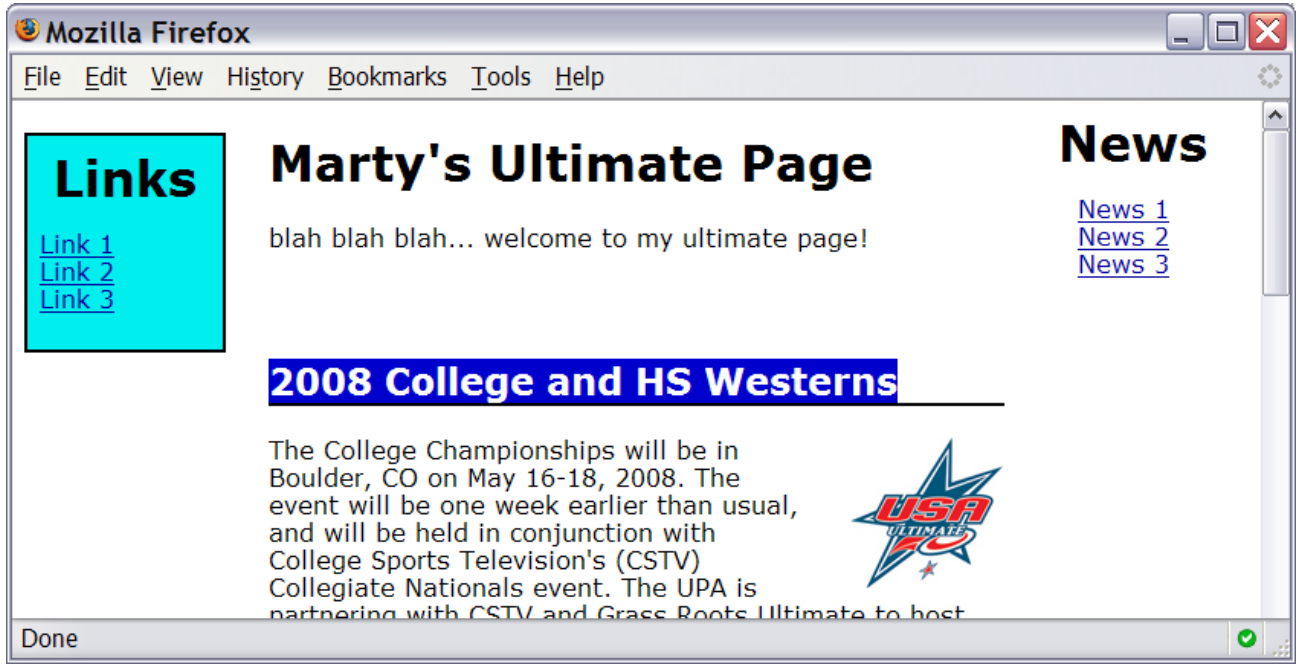
HTML

output

- red space under the image, despite `padding` and `margin` of 0
- this is because the image is vertically aligned to the baseline of the paragraph (not the same as the bottom)
- setting `vertical-align` to `bottom` fixes the problem (so does setting `line-height` to `0px`)

Motivation for page sections

- want to be able to **style individual elements, groups of elements, sections of text** or of the page
- (later) want to create complex page layouts



The HTML `id` attribute

```
<p>Spatula City!  Spatula City!</p>
<p id="mission">Our mission is to provide the most
spectacular spatulas and splurge on our specials until our
customers <q>esplode</q> with splendor!</p>
```

HTML

Spatula City! Spatula City!

Our mission is to provide the most spectacular spatulas and splurge on our specials until our customers “esplode” with splendor!

output

- allows you to give a unique ID to any element on a page
- each ID must be unique; can only be used once in the page

Linking to sections of a web page

```
<p>Visit <a href=
    "http://www.textpad.com/download/index.html#downloads">
  textpad.com</a> to get the TextPad editor.</p>

<p><a href="#mission">View our Mission Statement</a></p>
```

HTML

Visit textpad.com to get the TextPad editor.

View our Mission Statement

output

- a link target can include an ID at the end, preceded by a #
- browser will load that page and scroll to element with given ID

CSS `id` selectors

```
#mission {
        font-style: italic;
        font-family: "Garamond", "Century Gothic", serif;
}
```
CSS

Spatula City! Spatula City!

Our mission is to provide the most spectacular spatulas and splurge on our specials until our customers "esplode" with splendor!

output

- applies style only to the paragraph that has the ID of `mission`
- element can be specified explicitly: `p#mission {`

The HTML class attribute

```html
<p class="shout">Spatula City!  Spatula City!</p>
<p class="special">See our spectacular spatula specials!</p>
<p class="special">Today only: satisfaction guaranteed.</p>
```

HTML

Spatula City! Spatula City!

See our spectacular spatula specials!

Today only: satisfaction guaranteed.

output

- classes are a way to group some elements and give a style to only that group ("I don't want ALL paragraphs to be yellow, just these three...")

- unlike an `id`, a `class` can be reused as much as you like on the page

CSS class selectors

```css
.special {                    /* any element with class="special" */
  font-weight: bold;
}
p.shout {                   /* only p elements with class="shout" */
  color: red;
  font-family: cursive;
}
```

CSS

Spatula City! Spatula City!

See our spectacular spatula specials!

Today only: satisfaction guaranteed.

output

- applies rule to any element with class `special`, or a `p` with class `shout`

CSS context selectors

```
selector1 selector2 {
    properties
}
```
CSS

- applies the given properties to *selector2* only if it is inside a *selector1* on the page

```
selector1 > selector2 {
   properties
}
```
CSS

- applies the given properties to *selector2* only if it is *directly* inside a *selector1* on the page (*selector2* tag is immediately inside *selector1* with no tags in between)

Context selector example

```html
<p>Shop at <strong>Hardwick's Hardware</strong>...</p>
<ul>
  <li>The <strong>best</strong> prices in town!</li>
  <li>Act while supplies last!</li>
</ul>
```

HTML

```css
li strong { text-decoration: underline; }
```

CSS

Shop at **Hardwick's Hardware**...

- The **best** prices in town!
- Act while supplies last!

ouput

Inline sections:

an inline element used purely as a range for applying styles

```
<h2>Spatula City!  Spatula City!</h2>
<p>See our <span class="special">spectacular</span> spatula
specials!</p>
<p>We'll beat <span class="shout">any advertised price</span>!</p>
```

HTML

Spatula City! Spatula City!

See our **spectacular** spatula specials!

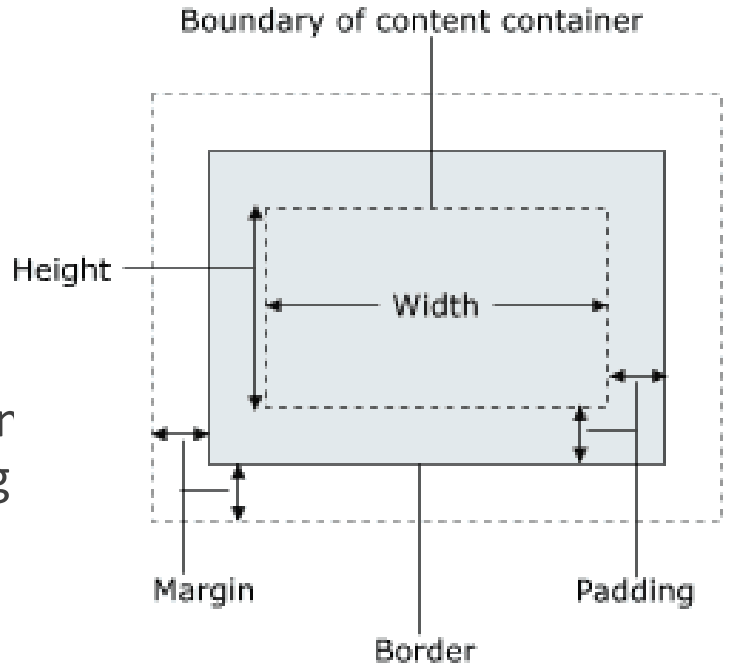
We'll beat any advertised price!

output

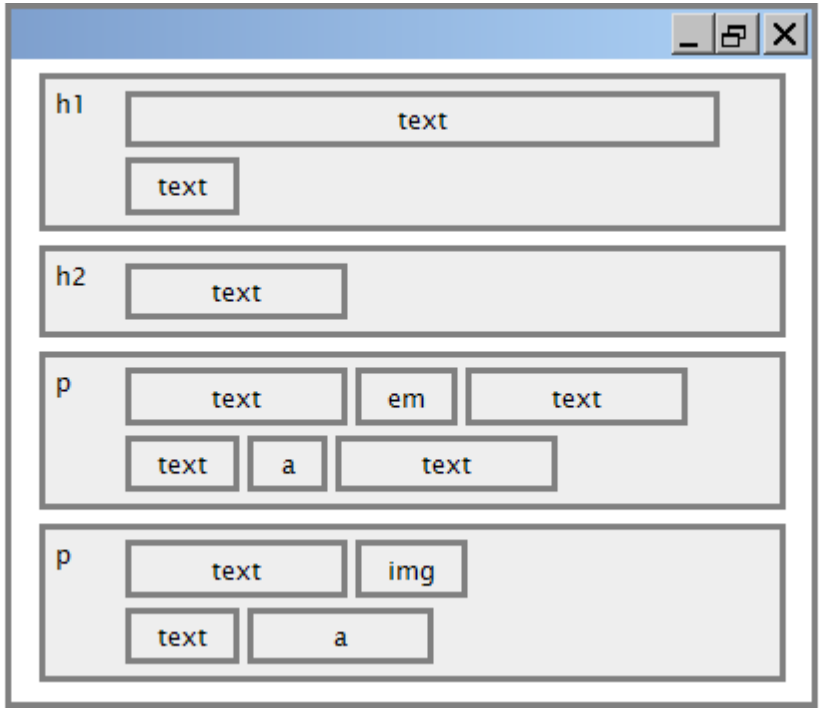
- has no onscreen appearance, but you can apply a style or ID to it, which will be applied to the text inside the span

The CSS Box Model

- for layout purposes, every element is composed of:
  - the actual element's **content**
  - a **border** around the element
  - **padding** between the content and the border (*inside*)
  - a **margin** between the border and other content (*outside*)
- width = content width + L/R padding + L/R border + L/R margir
  height = content height + T/B padding + T/B border + T/B marg
  - IE6 doesn't do this right



Document flow - block and inline elements



CSS properties for borders

```
h2 { border: 5px solid red; }
```
CSS

This is a heading.

output

property	description
border	thickness/style/color of border on all 4 sides

- **thickness** (specified in px, pt, em, or thin, medium, thick)
- **style** (none, hidden, dotted, dashed, double, groove, inset, outset, ridge, solid)
- **color** (specified as seen previously for text and background colors)

More border properties

property	description
border-color, border-width, border-style	specific properties of border on all 4 sides
border-bottom, border-left, border-right, border-top	all properties of border on a particular side
border-bottom-color, border-bottom-style, border-bottom-width, border-left-color, border-left-style, border-left-width, border-right-color, border-right-style, border-right-width, border-top-color, border-top-style, border-top-width	properties of border on a particular side
Complete list of border properties	

Border example 2

```css
h2 {
  border-left: thick dotted #CC0088;
  border-bottom-color: rgb(0, 128, 128);
  border-bottom-style: double;
}
```

CSS

This is a heading.

output

- each side's border properties can be set individually
- if you omit some properties, they receive default values (e.g. border-bottom-width above)

Rounded corners with border-radius

```css
p {
  border: 3px solid blue;
  border-radius: 12px;
  padding: 0.5em;
}
```

CSS

This is a paragraph.

This is another paragraph.
It spans multiple lines.

output

- each side's border radius can be set individually, separated by spaces

CSS properties for padding

property	description
padding	padding on all 4 sides
padding-bottom	padding on bottom side only
padding-left	padding on left side only
padding-right	padding on right side only
padding-top	padding on top side only
Complete list of padding properties	

CSS properties for margins

property	description
margin	margin on all 4 sides
margin-bottom	margin on bottom side only
margin-left	margin on left side only
margin-right	margin on right side only
margin-top	margin on top side only
Complete list of margin properties	

Margin example 1

```css
p {
  margin: 50px;
  background-color: fuchsia;
}
```

- notice that margins are always transparent
  (they don't contain the element's background color, etc.)

Margin example 2

```css
p {
  margin-left: 8em;
  background-color: fuchsia;
}
```

CSS

output

- each side's margin can be set individually

CSS properties for dimensions

```
p { width: 350px; background-color: yellow; }

h2 { width: 50%; background-color: aqua; }
```

CSS

output

property	description
width, height	how wide or tall to make this element (block elements only)
max-width, max-height, min-width, min-height	max/min size of this element in given dimension

Centering a block element: auto margins

```css
p {
  margin-left: auto;
  margin-right: auto;
  width: 750px;
}
```

CSS

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

output

- to center inline elements within a block element, use

```
text-align: center;
```

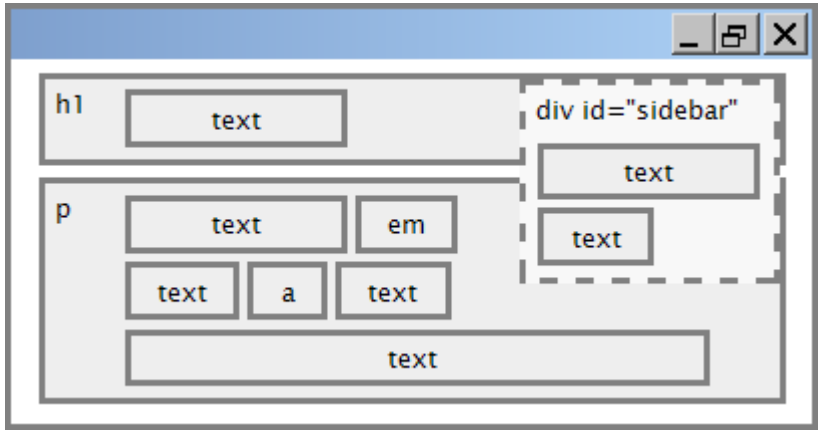
- works best if `width` is set (otherwise, may occupy entire width of page)

The CSS float property

property	description
float	side to hover on; can be left, right, or none (default)

- a ***floating*** element is removed from normal document flow

- underlying text wraps around it as necessary



Float example

```
<img src="images/koala.jpg" alt="Koala" class="headericon" />

Lorem ipsum dolor sit amet, consectetur adipiscing elit....
```
HTML

```
img.headericon {
    float: left;
}
```
CSS

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam scelerisque purus ut dui mollis, sed malesuada leo pretium. Morbi bibendum mi at lacus rutrum convallis. Duis id eros dolor. In id eros blandit lectus viverra facilisis at commodo velit. Cras pretium nunc id nisl elementum, at interdum odio blandit. Donec luctus rutrum iaculis. Praesent luctus ante et cursus suscipit. Nullam congue egestas lorem nec luctus. Donec tincidunt tortor mi, nec ultricies orci bibendum a. Aliquam viverra metus nec ligula varius feugiat. In lacinia ligula accumsan tortor porttitor ornare. Donec interdum mattis purus sit amet ultrices.

output

Floating content and width

I am not floating, no width set

I am floating right, no width set

I am floating right, no width set, but my text is very long so this paragraph doesn't really seem like it's floating at all, darn

I am not floating, 45% width

I am floating right, 45% width

- often floating elements should have a `width` property value
  - if no `width` is specified, other content may be unable to wrap around the floating element